

**GOLDEN EAGLE PARK DAM
FCD GAGE ID# 5978**

STATION DESCRIPTION

LOCATION – The dam and gage are located in the town of Fountain Hills. Access to the gage is from Golden Eagle Park near the intersection of Golden Eagle Boulevard and Palisades Boulevard. Latitude N 33° 37' 07". Longitude W 111° 44' 07". Located in the NW1/4 SW1/4 S10 T3N R6E, in the Granite Reef Dam 7.5-minute USGS quadrangle.

ESTABLISHMENT – The gage was installed on December 12, 1996. Gaging was reinstalled on the dam following construction on March 5, 2001.

DRAINAGE AREA – 7.13 mi², of which 5.75 mi² is controlled upstream.

GAGE – The gage is a Druck pressure transducer. The PT diaphragm is at 2.56 feet gage height, levels of February 11, 2003. The transducer is located in a stilling well near the left outlet.

There is no staff gage at this site.

There is no crest stage gage at this site.

ZERO GAGE HEIGHT – Zero gage height is defined as the inlet of the invert of either outlet culvert. Both are at the same elevation of 0.00 feet gage height, or 1,694.60 feet M.S.L.

HISTORY – Gage installed December 12, 1996. Dam was modified beginning in May 2000. Stage gage was moved to the north wash inlet to the dam. Construction included a second outlet in the center of the dam and raising the dam crest by about four feet. The spillway crest elevation was not changed. The half outlet at the left side of the dam was completely filled with concrete during construction. New trash racks were installed on both outlets. Crest gage was eliminated from the outlet following construction. Gage was reinstalled on March 5, 2001 at the left outlet. Transducer gage was moved out of the outlet and into a small stilling well located about 15 feet west of the side outlet. Gage was moved on February 11, 2003 to avoid draw down effects from the outlet.

REFERENCE MARKS –

RP1 – is the inlet invert elevation of either outlet. Its elevation is 0.00 feet gage height, or 1,694.60 feet M.S.L. from the As-Built Stantec design plans and survey of March 5, 2001.

RP2 is a '+' chiseled into the headwall of the center outlet. Elevation 9.43 feet gage height, levels of March 5, 2001.

RP3 is a '+' chiseled into the headwall of the left outlet. Elevation 11.36 feet gage height, levels of March 5, 2001.

CHANNEL AND CONTROL – The primary outlets for the dam are one 60-inch RCP (referred to as the Primary outlet in the design) and one 10-foot wide by 4-foot high concrete culvert in the center of the dam (referred to as the auxiliary outlet in the design.) The auxiliary outlet culvert pipe is 120 feet in length. The new culvert is 120 feet in length. There is one spillway at the dam located on the right side of the dam.

PRIMARY / AUXILIARY / SPILLWAY OUTLETS –

The primary outlet is the left culvert outlet. It consists of one 60-inch diameter pipe. The culvert inlet is at elevation 0.00 feet gage height, or 1,694.60 feet M.S.L. The left culvert invert at the outlet is at elevation –1.36 feet gage height, or 1,693.24 feet M.S.L. The auxiliary outlet is the center culvert invert. It has elevation is 0.00 feet gage height or 1,694.60 feet M.S.L. The culvert invert at the outlet is at –1.23 feet gage height, or 1,693.37 feet M.S.L.

The spillway is located on the right side of the dam. The spillway crest elevation is 20.26 feet gage height, or 1,714.86 feet M.S.L.

Top of dam elevation is at about 31.90 feet gage height, or 1,726.50 feet M.S.L.

RATING – The rating for the discharge is from the Stantec design As-Built. The current discharge rating is Rating #2.

The capacity rating is also from the Stantec design. The current capacity rating is Rating #2.

DISCHARGE MEASUREMENTS – It may be possible to capture a discharge measurement from either outlet channel. Flows through the auxiliary spillway may be too wide and shallow to be measured.

POINT OF ZERO FLOW – The point of zero flow is the invert of the both outlet culverts, at 0.00 feet gage height. Both culvert inverts are at the same elevation.

FLOODS / SIGNIFICANT IMPOUNDMENTS – There have been no significant impoundments since installation.

REGULATION – Upstream flows are regulated by Hesperus Dam, Aspen Dam and North Heights Dam. Golden Eagle Park Dam regulates flows through the natural washes.

DIVERSIONS – None known

ACCURACY – Good

JUSTIFICATION – Monitor flows and impoundments in Golden Eagle Park Dam for safety in the town of Fountain Hills.

UPDATE – August 16, 2011
DE Gardner